



# California's Renewable Energy Transmission Initiative: Status Update

California Public Utilities Commission  
California Energy Commission  
California Independent System Operator

December 8, 2008



# Renewable Energy Transmission Initiative

- Statewide collaborative study effort to identify and facilitate the development of the transmission needed to access the most cost-effective and environmentally-preferable renewable resources in CA and neighboring states
- Three-Phased Process
  - **Phase 1** – Identification and ranking of Competitive Renewable Energy Zones (CREZs)
  - **Phase 2** – Refinement of analysis for priority CREZs and development of statewide conceptual transmission plan
  - **Phase 3** – Detailed transmission planning for priority CREZs



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Coordinating Committee



## **RETI Statewide Processes**

**CEC**

Strategic Plan

Corridor Designation

Power Plant Siting

**CPUC**

RPS

Long-Term  
Procurement

Transmission  
Permitting

**RETI**

Phase  
**1**

Phase  
**2**

Phase  
**3**

**Renewable Energy Transmission Initiative**

**CAISO & POU's**

*Transmission Planning Processes*

Generator  
Interconnection  
Process

FERC  
Order 890

Subregional  
Planning  
Process

POU  
Certification  
Process



# RETI Organization / Roles

## ■ Coordinating Committee

- ☐ Oversees the overall RETI process
- ☐ Ensures development of needed information
- ☐ Keeps the process on schedule

## ■ Stakeholder Steering Committee

- ☐ Primary working group
- ☐ Key stakeholder representatives
- ☐ ~30 members

## ■ Plenary Stakeholder Group

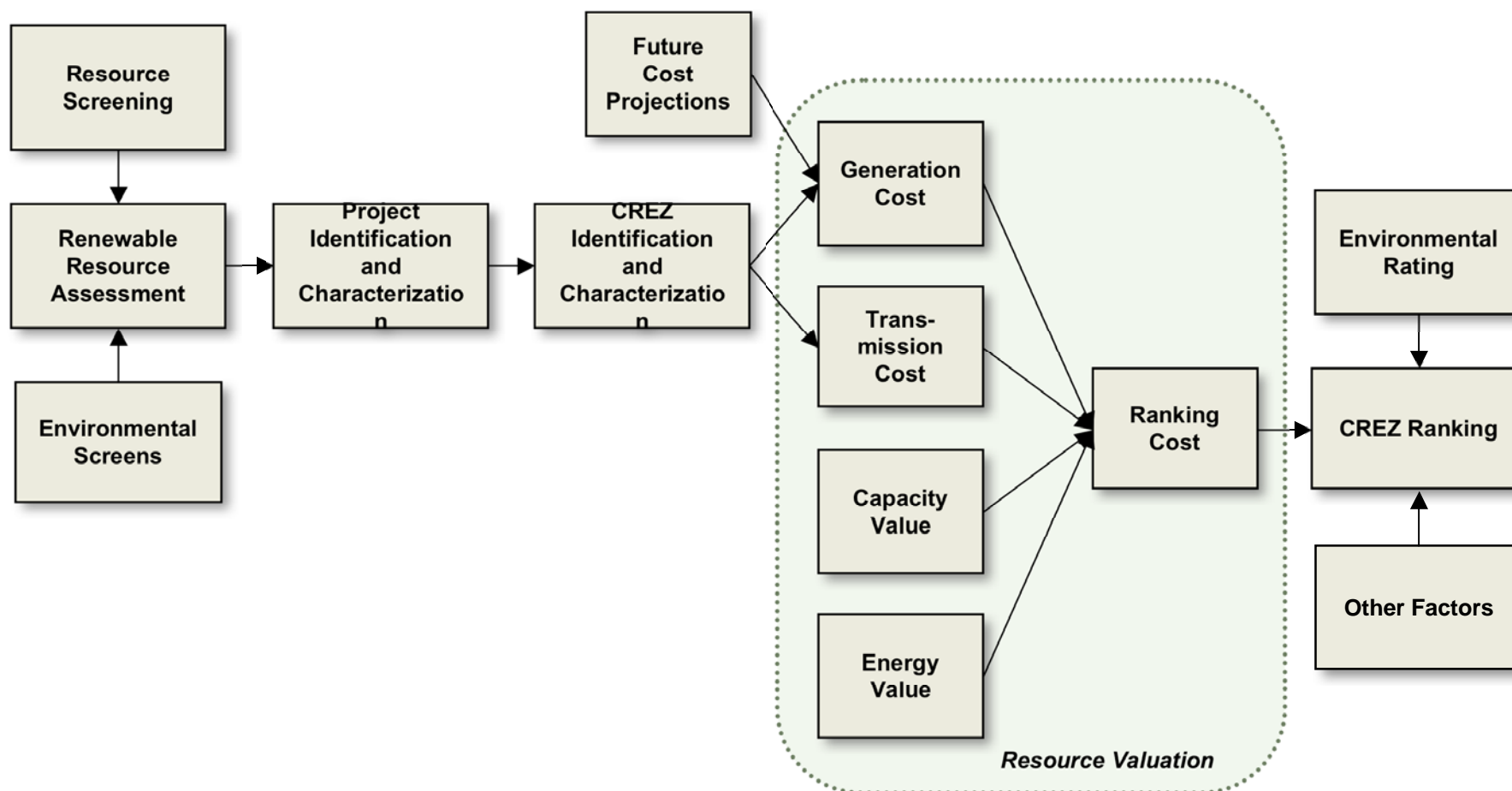
- ☐ Reviews Steering Committee work
- ☐ Provides feedback, “ground-truthing”
- ☐ All stakeholders and the public



## Phase 1 – Scope of Work

- Identify *developable* renewable resources in California and neighboring areas – engineering review and consideration of environmentally sensitive areas
- Analyze the economics of development in each area – both cost and value
- Identify CREZs based on geography, development timeframe, shared transmission constraints, “additive economics”
- Rank CREZs according to cost-competitiveness
- Rate CREZs according to environmental concerns
- Final Phase 1 Report due in **December 2008**

# Phase 1 Methodology























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## Phase 1 – Scope of detailed assessment

**Table 3-8. Resource Areas Studied in Phase 1B.**

	CA	OR	WA	NV	AZ	Baja California	British Columbia
<b>Solid Biomass</b>							
<b>Solar Photovoltaic</b>							
<b>Solar Thermal</b>				 (south)	 (west)		
<b>Onshore Wind</b>				 (south)		 (north)	
<b>Geothermal</b>							



## Phase 1 – Environmental Working Group

- Unprecedented collaborative including environmental organizations and renewable energy developers working to advance siting in a systematic, transparent and proactive manner
- EWG has:
  - Identified and mapped “black” and “yellow” areas where generation development is precluded and restricted by law or policy
  - Developed methodology for rating CREZs according to environmental concerns and for combining that rating with the economic CREZ ranking to develop RETI’s final CREZ “short-list”
  - Engaged in significant outreach to affected stakeholders and communities

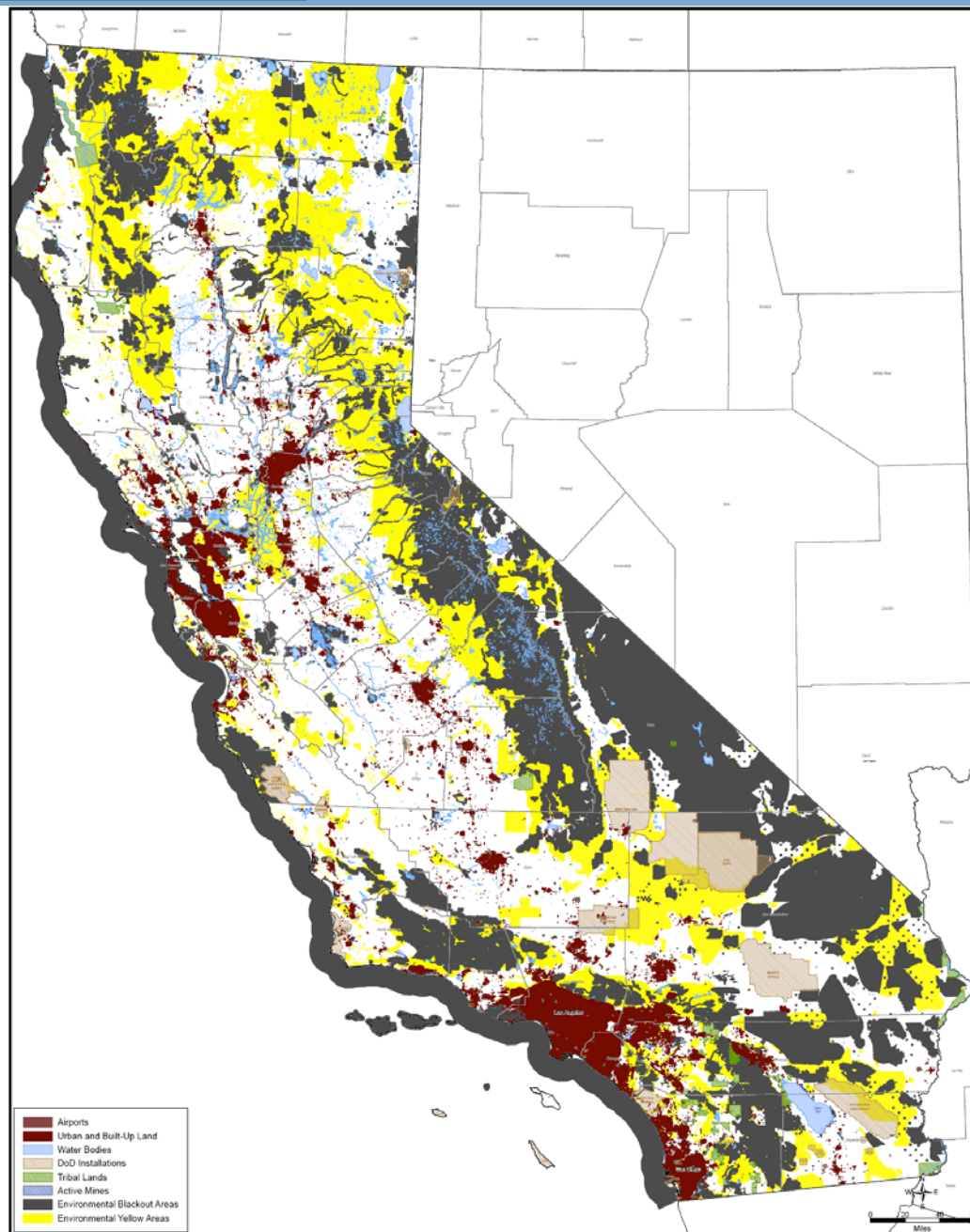


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“Black” and  
“yellow” areas  
identified by the  
EWG





## Phase 1 Status

- Phase 1A Report accepted by SSC on 5/21/08
  - High-level resource assessment to direct focus of Phase 1B
  - Methodology for Phase 1B project-level assessment
  
- Interim EWG Phase 1B Report released on 8/15/08
  - Screening methodology used to inform project identification
  - Methodology for rating CREZs according to environmental concerns



## Phase 1 Status (cont'd)

- Phase 1B Draft Resources Report released on 8/16/08
  - Provides project-level assessment of >3,600 “identified” and “proxy” projects throughout CA and neighboring areas totaling >500,000 MW
  - Only generation costs included – no transmission costs or capacity and energy value
  - Huge identified potential prompted re-evaluation of methodology for identifying and ranking CREZ
- Phase 1B Draft Report released on 11/5/08
- Phase 1B Final Report to be considered for SSC adoption on 12/17/08



## Phase 1B Draft Report - Results

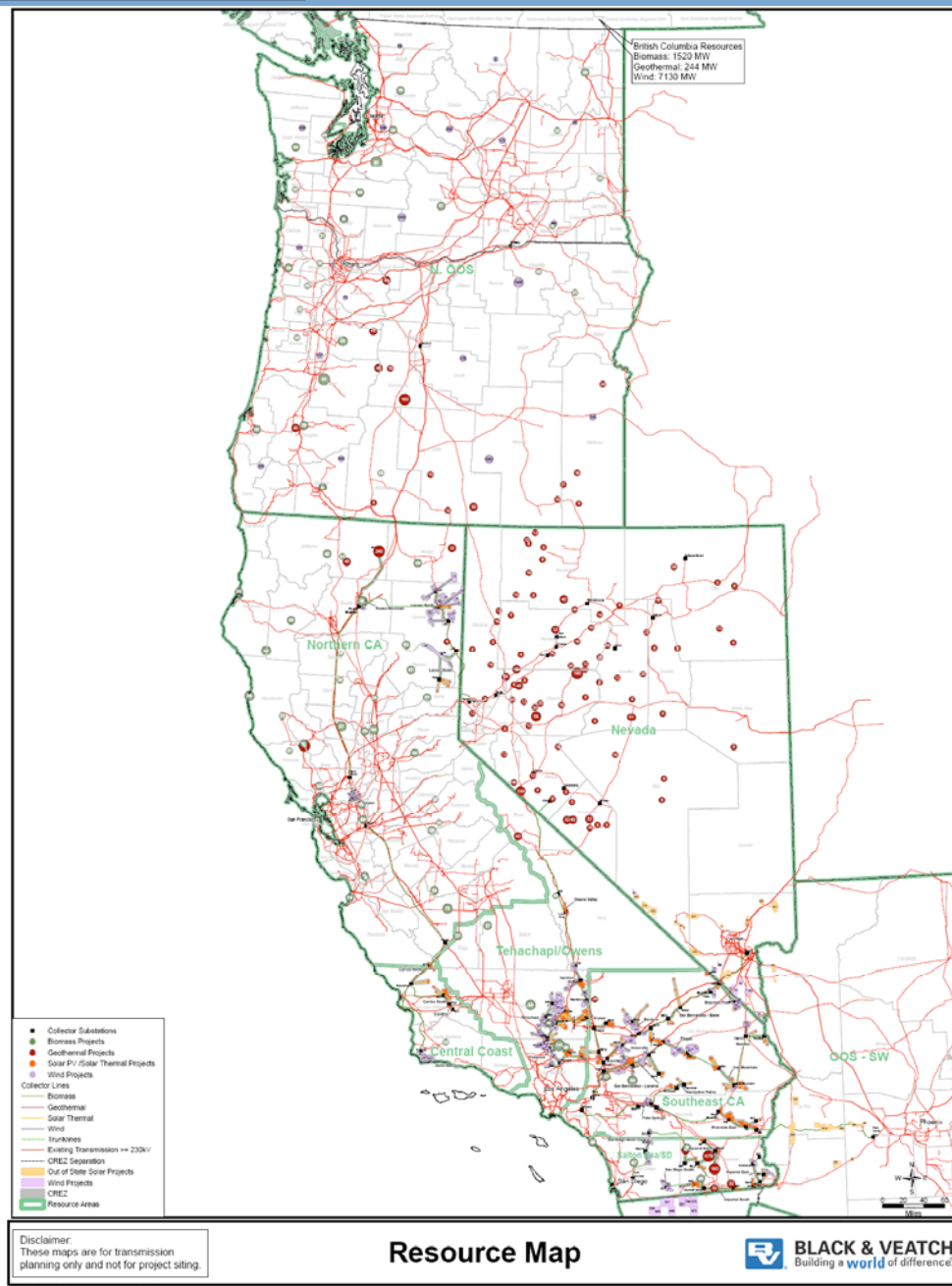
- Black & Veatch, in consultation with Phase 1B working group
  - > 2,100 individual “pre-identified” and “proxy” generation projects
  - > 80,000 MW within 29 CREZs in California; 6 CREZs were split at “breaks” in their supply curves, resulting in total of 37 distinct, ranked areas
  - 40,000 MW outside of CA with potential to deliver energy to CA.
  - > 25,000 MW of non-CREZ resources in CA, most from distributed PV systems
- Environmental Working Group
  - CREZs identified by Black & Veatch are rated according to environmental concerns associated with the projected generation



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CREZ and  
non-CREZ  
resources  
identified  
throughout  
the study  
area





California ISO  
Your Link to Power

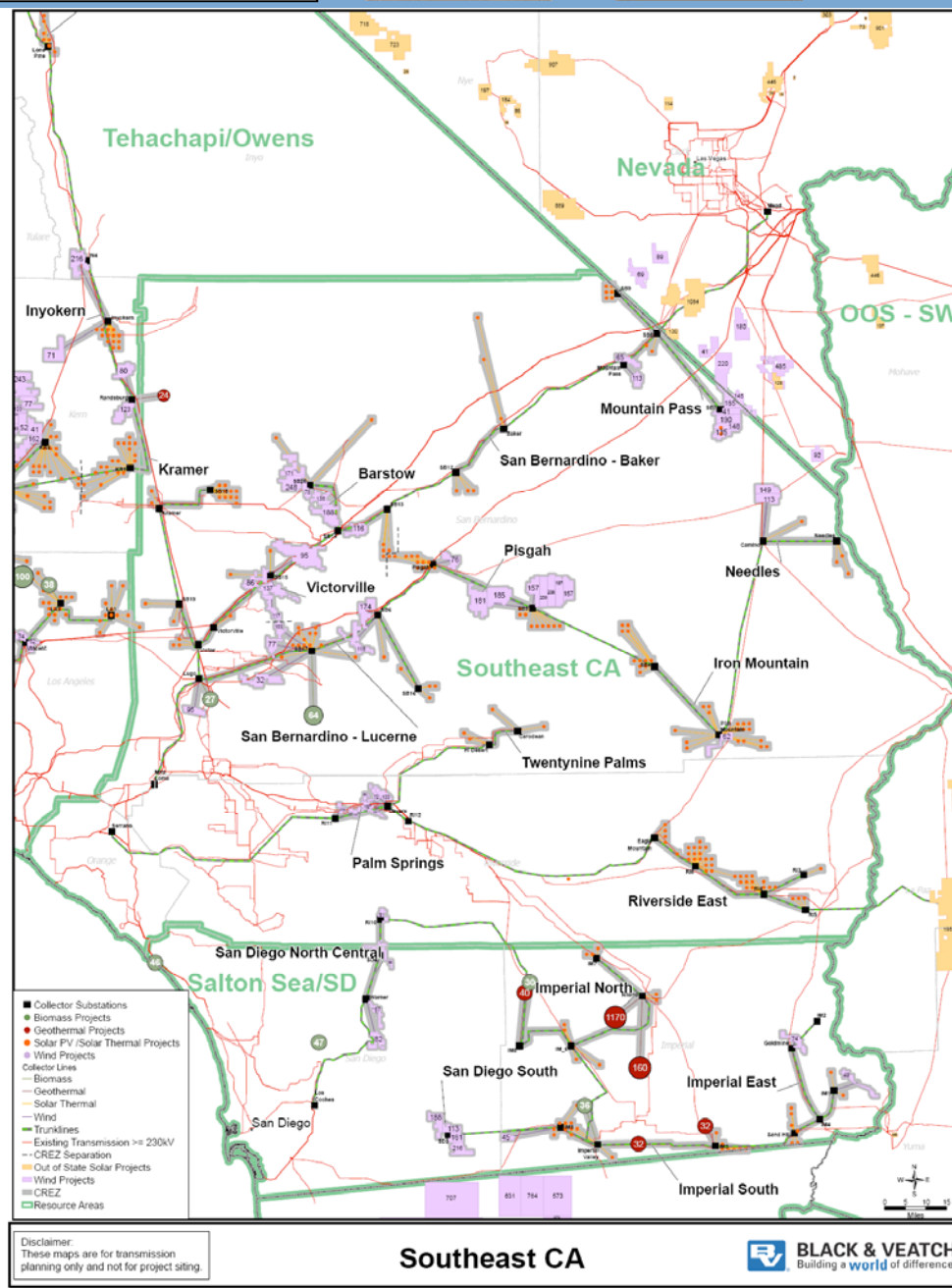
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NCPA  
NORTHERN CALIFORNIA POWER AGENCY

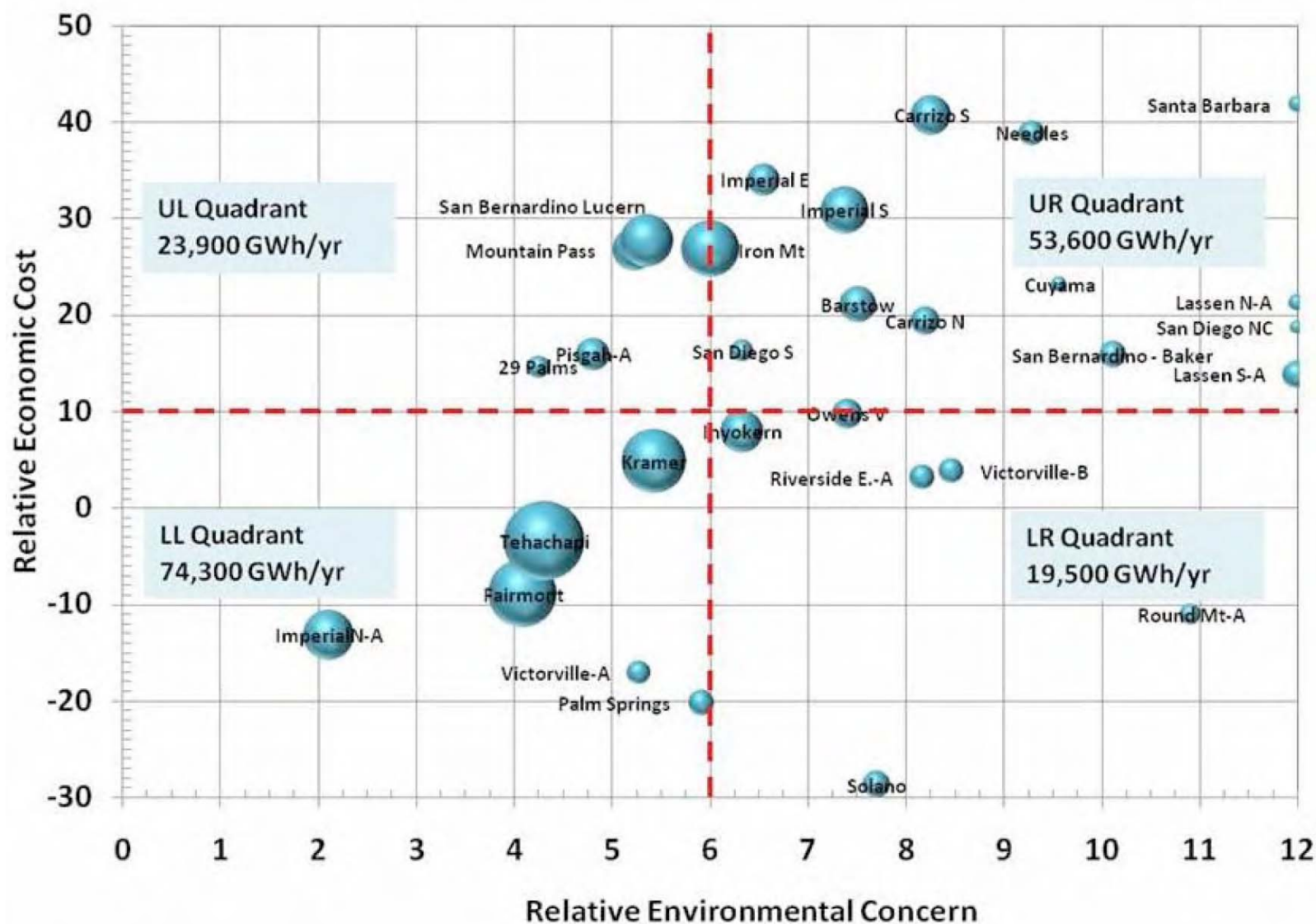
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# Example – Southeast California Resource Area





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**Figure ES-1. Economic and Environmental Assessment of California CREZs.**  
*Circle size is proportional to CREZ energy potential (GWh/yr)*



## Phase 2 – Scope of Work

- Refine and verify priority CREZs, i.e. confirm developability and generation potential
- Adjust CREZ boundaries as appropriate
- Develop conceptual transmission plans for the highest ranking CREZs
- Executive Order S-14-08 requires a Renewable Transmission Development Report by March 31, 2009 identifying CREZs, potential transmission routes, and interconnection points



## Phase 3 – Scope of Work

- Existing transmission planning organizations collaboratively design plans of service that result in applications to construct new transmission infrastructure to meet RPS goals
- ~ 8 month-long process; may be iterative
- Explore joint projects as appropriate
- Final result = Statewide Plan



## Plan for Implementation – CAISO

### ■ Transmission Planning Process

- ☐ ISO will incorporate RETI CREZs and TX proposals into Order 890 Annual TX Planning Process
- ☐ Lead RETI Phase 2 Planning process with LADWP to develop Statewide Conceptual TX Plan(s) by March 31, 2009
- ☐ Develop Phase 3 Statewide Plan and explore joint projects as appropriate
- ☐ Generator Interconnection Queue Process (GIPR) reform is ongoing and will be coordinated with RETI CREZ and TX efforts



## Plan for Implementation – CPUC

- Transmission Permitting Process
  - Proceeding on transmission for renewables (R.08-03-009/I.08-03-010) will consider how RETI will inform CPCN and other proceedings
    - Justification of “need”?
    - Justification for backstop cost recovery?
- RETI resource information is informing 33% Implementation Analysis – draft in February 2009
- Long-Term Procurement Plan (LTPP) process considering whether to use RETI as basis for renewable resource assumptions used in all IOUs’ LTPPs



## Plan for Implementation – Energy Commission

- Per Executive Order S-14-08, Streamline Permitting for Renewable Energy Projects
  - Identify within appropriate CREZs Renewable Energy Development Areas to facilitate development of generation
  - Identify whether transmission corridors should be designated to access CREZs/ Renewable Energy Development Areas
  - Identify, with DFG, areas where NCCPs should be developed based on renewable development potential
  - Develop, with DFG, a Best Management Practices manual to assist RPS project applicants
- Vet results in statewide public Strategic Plan/IEPR process to develop policy recommendations on projects and corridors



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## Public Process – SSC and Plenary Meetings

- September 20, 2007 – Public kick-off meeting
- October 29, 2007 – SSC
- December 17, 2007 – SSC
- January 22, 2008 – SSC & Plenary
- February 6, 2008 – CC Meeting with Generators
- February 27, 2008 – SSC
- March 19, 2008 – SSC
- March 26, 2008 – Plenary
- April 16, 2008 – SSC
- May 21, 2008 – SSC & Plenary
- June 19, 2008 – SSC
- July 16, 2008 – SSC
- August 20, 2008 – SSC & Plenary
- October 31, 2008 – SSC
- November 12, 2008 – Plenary (and Local Government)
- November 14, 2008 – SSC
- November 24, 2008 – SSC
- December 17, 2008 – SSC – **Consider adopting Final Phase 1B Report**



## More Information

- RETI Mission Statement, Frequently Asked Questions, meeting minutes and presentations, etc. available at:  
[www.energy.ca.gov/reti/](http://www.energy.ca.gov/reti/)